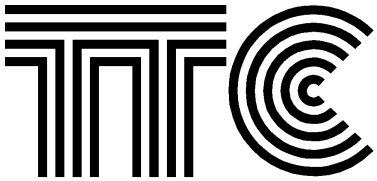

# LMS-OCH

## Local management system for PCM30U

user manual

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Doc. No: 446.490.610E0.N00

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# LMS-OCH User manual

Local is intended for situations, where central network management can not be used. Either because of fault of management network, either to set parameters which are not allowed to set remotely.
For this purposes serves LMS_OCH (Local management System for PCM30U-OCH).

## 1 HW and SW requirements

Hardware: Notebook or netbook with serial port. Use of USB/RS232 converter is possible, but it will slightly slowdown communication.
Ethernet port 10/100
Operating system: Windows XP / Win7 – 32 bit version
User rights: Administrator privilege necessary

Not all USB/RS232 converters are compatible with LMS and Win 7. SB232 is recommended converter. It has galvanically isolated ports and drivers are tested and included in installation.
LMS-OCH requires CJAB firmware version 63 or higher. CJA6 and CJAE are supported from starting versions

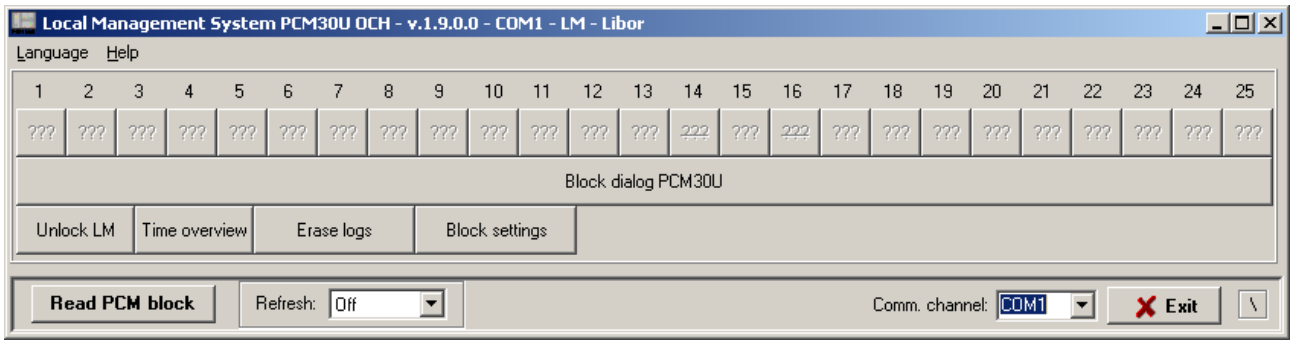
## 2 Installation

Follow installation guide instructions. First install LMS and second install USB-serial driver.
install shield does not write correctly serial number into system. in this case LMS will prompt for serial number.
SB232 USB to serial converter drivers are copied into program installation directory. Plug-in converter and when windows asks for drivers, point to the drivers in sub-directory called papouch.

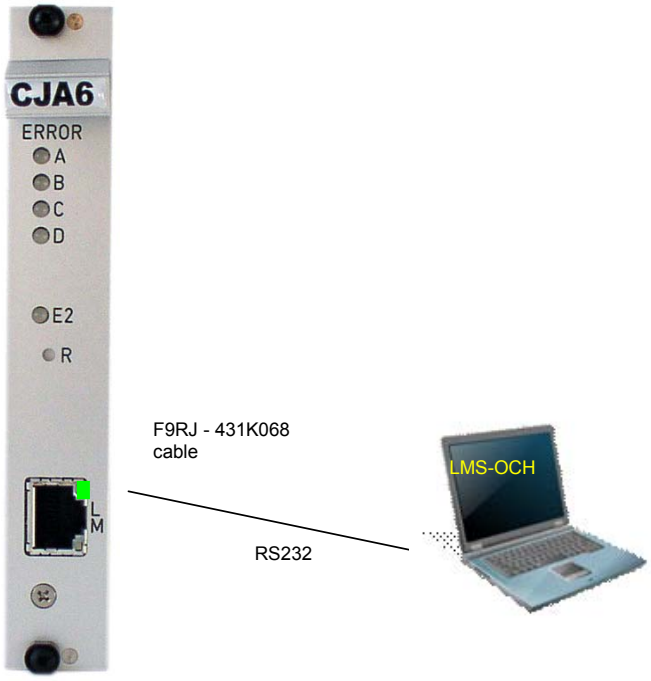
# 3 Connecting to the equipment

LMS can be connected directly into central module (CJAB, CJA6, CJAE, …) by serial interface, or through SMI module by Ethernet interface.

## 3.1 Serial connection


Local Management System PCM30U OCH - v.1.9.0.0 - COM1 - LM - Libor
Language Help
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Block dialog PCM30U
Unlock LM
Time overview
Erase logs
Block settings
Read PCM block
Refresh: Off
Comm. channel: COM1
Exit

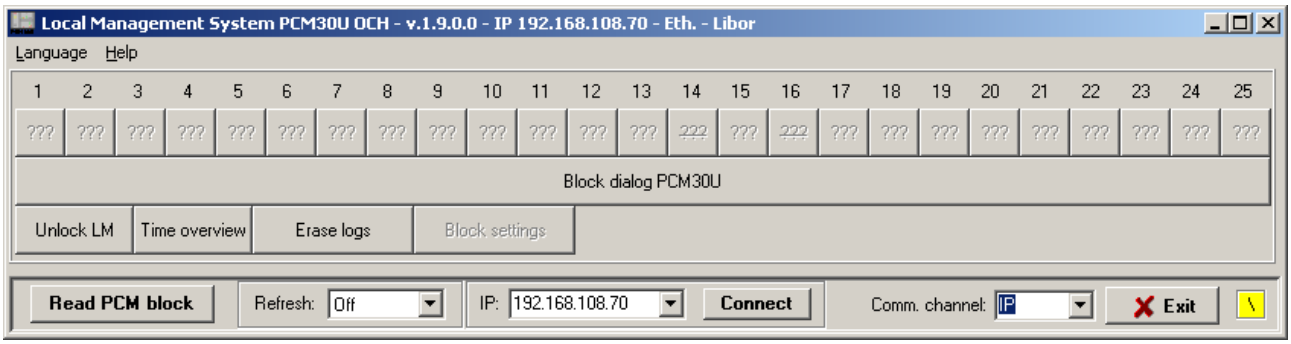
Use cable with **F9RJ** label, ordering code **431K068**




Select comm.. channel COMx

Connect serial port of notebook to „**LM**“ connector at **CJAB** module. Run LMS_OCH, select communication port (1 to 9 are supported). Green LED LM at CJAB should be active, indicating that CJAB is switched to local management mode and stopped communication with central management.

## 3.2 Ethernet connection


Local Management System PCM30U OCH - v.1.9.0.0 - IP 192.168.108.70 - Eth. - Libor
Language Help
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Block dialog PCM30U
Unlock LM
Time overview
Erase logs
Block settings
Read PCM block
Refresh: Off
IP: 192.168.108.70
Connect
Comm. channel: IP
Exit

Use straight or crossed Ethernet cable.

As a factory default both port can be used for connection.
Select comm.. channel IP and enter IP address. Click connect and LMS will connect to SMI. Click Read PCM block and LMS wil through SMI connect to the central module (CJA6, CJAE, ..). For more details see SMI documentation.

# 4 Program description

## 4.1 Command line parameters

- port IP_address password (port = IP, or number of serial comm. port 1,2,3,4,....)
- title “Text string shown in window title”

Example to access OCH/SMI with factory default IP address and password
**lms_och.exe IP 192.168.111.111 admin**

Example to access OCH by LM serial interface, serial comm. port number 1
**lms_och.exe 1**

Example to access OCH/SMI with factory default IP address and password and title
**lms_och.exe IP 192.168.111.111 admin title “My title”**

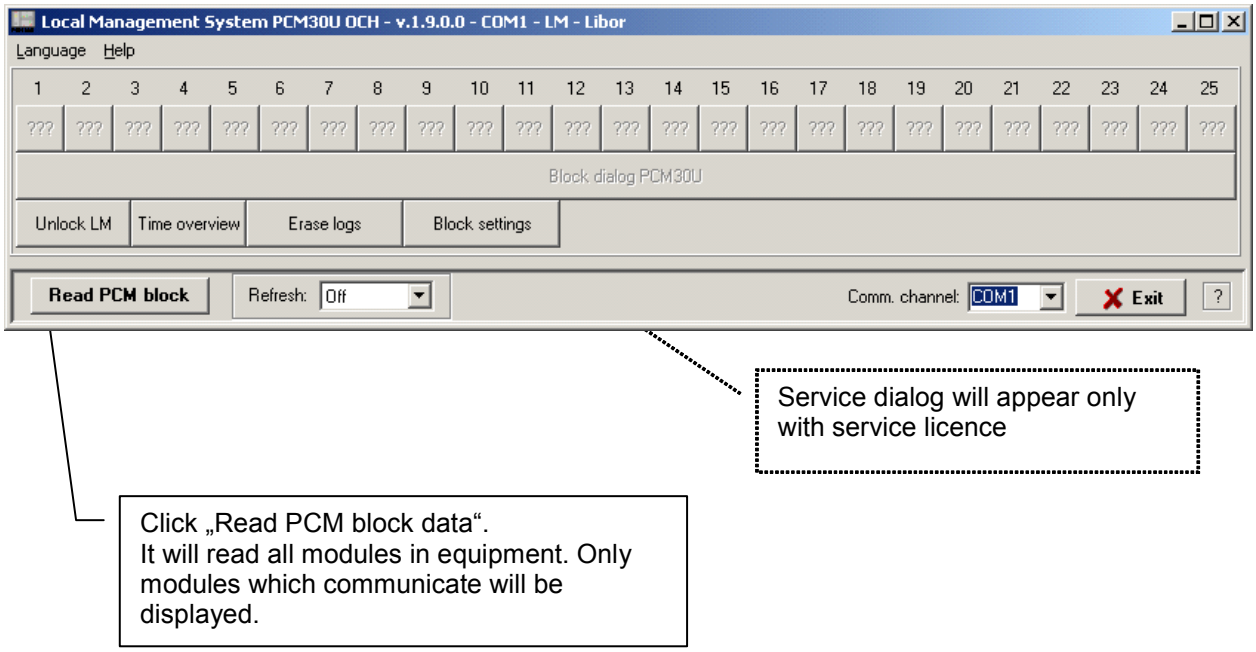
**Copy of windows shortcut**

"C:\Program Files\TTC\LMS-exe\LMS_OCH.exe" IP 192.168.108.70 admin title "Libor"

## 4.2 Initial dialog

Program will try to open first communication port. If fails, select correct “Serial or IP port”.
LMS-OCH communicates with equipment only on user demand (SetPage, Read buttons). No information in dialog windows is automatically refreshed.

Connect serial port F9RJ to LM socket at CJAB, CJA6, CJAE, … module. Green LED “LM” will indicate that module switched communication from network to local. Central management (Doris) will loose communication.


Local Management System PCM30U OCH - v.1.9.0.0 - COM1 - LM - Libor
Language Help
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
Block dialog PCM30U
Unlock LM
Time overview
Erase logs
Block settings
Read PCM block
Refresh: Off
Comm. channel: COM1
Exit
?
Service dialog will appear only with service licence
Click „Read PCM block data“.
It will read all modules in equipment. Only modules which communicate will be displayed.

The most basic settings are available under Block settings button. It is visible only in service level. Level is given by serial number according to order.

Next chapter describes Block settings possibility. Block settings are allowed only with local (serial port) connection, not when connected through IP. It is because some changes requires local connection into second CJA6 or temporary removing some central module.

### 4.3 Central part equipment settings – CJA6 ≥ 120-9, DXS ≥ 10, LMS-OCH ≥ 1.9

Basic configuration of central part modules is possible only with local connection by use of LCT LMS-OCH with “Service” access level of LMS-OCH.

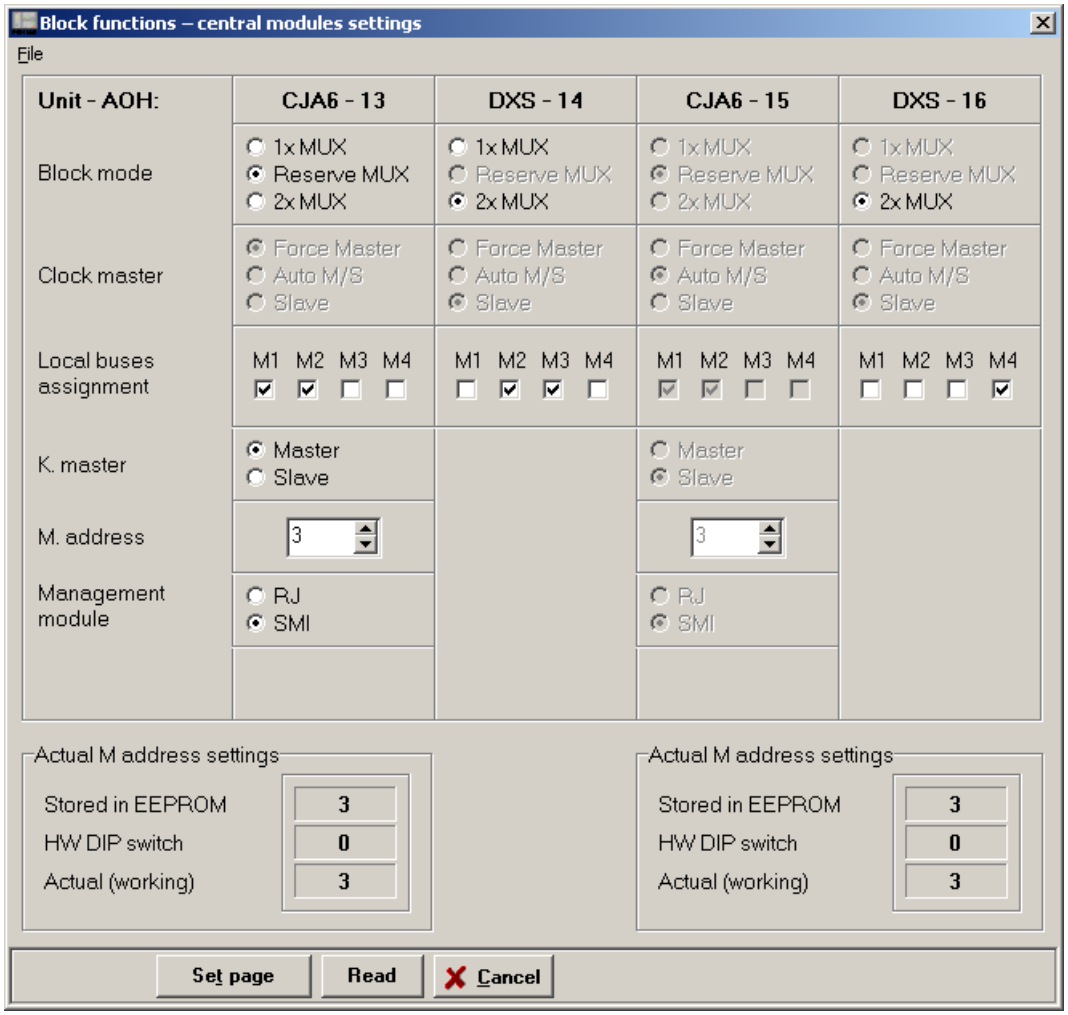
#### 4.3.1 Block mode

Select basic mode of equipment.

If DXS present, CJA6 is disconnected from local buses (M1-M4) and performs only management functions.

Reserve MUX, 2xMUX and DXS with access to the local busses are available only with TPR10.

Complete block settings dialogue



#### 4.3.1.1 1xMUX – CJA6

CJA6 operates all local buses M1-M4. 1-2 E1 at IFU, 1-4 E1 in JRxx module.

#### 4.3.1.2 1xMUX – CJA6+DXS

CJA6 and DXS shares local busses.

Any local bus can be connected to CJA6 or DXS. Synchronization master can be CJA6 or DXS

| Unit - AOH: | CJA6 - 13 | DXS - 14 |
|---|---|---|
| Block mode | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX |
| Clock master | ◉ Force Master<br>○ Auto M/S<br>○ Slave | ○ Force Master<br>○ Auto M/S<br>◉ Slave |
| Local buses assignment | M1 M2 M3 M4<br>☑ ☑ ☐ ☐ | M1 M2 M3 M4<br>☐ ☐ ☑ ☑ |
| K. master | ◉ Master<br>○ Slave | |

| Unit - AOH: | CJA6 - 13 | DXS - 14 |
|---|---|---|
| Block mode | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX |
| Clock master | ○ Force Master<br>○ Auto M/S<br>◉ Slave | ◉ Force Master<br>○ Auto M/S<br>○ Slave |
| Local buses assignment | M1 M2 M3 M4<br>☑ ☑ ☐ ☐ | M1 M2 M3 M4<br>☐ ☐ ☑ ☑ |
| K. master | ◉ Master<br>○ Slave | |

#### 4.3.1.3 2xMUX - CJA6+CJA6

CJA6 modules share local busses (M1-M4).

| Unit - AOH: | CJA6 - 13 | CJA6 - 15 |
|---|---|---|
| Block mode | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX |
| Clock master | ◉ Force Master<br>○ Auto M/S<br>○ Slave | ○ Force Master<br>○ Auto M/S<br>○ Slave |
| Local buses assignment | M1 M2 M3 M4<br>☑ ☑ ☐ ☐ | M1 M2 M3 M4<br>☐ ☐ ☐ ☐ |
| K. master | ◉ Master<br>○ Slave | ○ Master<br>○ Slave |

#### 4.3.1.4 2xMUX – 2x(CJA6+DXS)

CJA6 and DXS shares local buses. Any module can be connected to any local bus.
Block is synchronized from first DXS.

| Unit - AOH: | CJA6 - 13 | DXS - 14 | CJA6 - 15 | DXS - 16 |
|---|---|---|---|---|
| Block mode | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX |
| Clock master | ○ Force Master<br>○ Auto M/S<br>◉ Slave | ◉ Force Master<br>○ Auto M/S<br>○ Slave | ○ Force Master<br>○ Auto M/S<br>◉ Slave | ○ Force Master<br>◉ Auto M/S<br>○ Slave |
| Local buses assignment | M1 M2 M3 M4<br>☑ ☐ ☐ ☐ | M1 M2 M3 M4<br>☐ ☑ ☐ ☐ | M1 M2 M3 M4<br>☐ ☐ ☑ ☐ | M1 M2 M3 M4<br>☐ ☐ ☐ ☑ |
| K. master | ◉ Master<br>○ Slave | | ○ Master<br>◉ Slave | |

| Unit - AOH: | CJA6 - 13 | DXS - 14 | CJA6 - 15 | DXS - 16 |
|---|---|---|---|---|
| Block mode | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX |
| Clock master | ◉ Force Master<br>○ Auto M/S<br>○ Slave | ○ Force Master<br>○ Auto M/S<br>◉ Slave | ○ Force Master<br>◉ Auto M/S<br>○ Slave | ○ Force Master<br>○ Auto M/S<br>◉ Slave |
| Local buses assignment | M1 M2 M3 M4<br>☐ ☑ ☐ ☐ | M1 M2 M3 M4<br>☐ ☐ ☑ ☐ | M1 M2 M3 M4<br>☐ ☐ ☐ ☑ | M1 M2 M3 M4<br>☑ ☐ ☐ ☐ |
| K. master | ◉ Master<br>○ Slave | | ○ Master<br>◉ Slave | |

Block is synchronized from first CJA6

#### 4.3.1.5 Reserve MUX – CJA6+CJA6

CJA6.1 operates all local busses. If fails, CJA6.2 takes the traffic. E1.a and E1.b must be both connected only to the first IFU (DIP switches at IFU). CJA6.2 is disconnected from IFU (3rd state). Reserved traffic is limited to 60channels (E1.a and E1.b).

| Unit - AOH: | CJA6 - 13 | | CJA6 - 15 |
|---|---|---|---|
| Block mode | ○ 1x MUX<br>◉ Reserve MUX<br>○ 2x MUX | | ○ 1x MUX<br>◉ Reserve MUX<br>○ 2x MUX |
| Clock master | ◉ Force Master<br>○ Auto M/S<br>○ Slave | | ○ Force Master<br>◉ Auto M/S<br>○ Slave |
| Local buses assignment | M1 M2 M3 M4<br>☑ ☑ ☑ ☑ | | M1 M2 M3 M4<br>☑ ☑ ☑ ☑ |
| K. master | ◉ Master<br>○ Slave | | ○ Master<br>◉ Slave |

#### 4.3.1.6 Reserve MUX –CJA6+CJA6, 2xMUX (DXS+DXS)

CJA6.1 operates at selected busses. If fails, CJA6.2 takes the traffic. E1.a and E1.b must be both connected only to the first IFU (DIP switches at IFU). CJA6.2 is disconnected from IFU (3rd state). Reserved traffic is limited to 60channels (E1.a and E1.b). Local busses not used by CJA6 are connected to any DXS. Block can by synchronized only from CJA6. (The one which is currently active)

| Unit - AOH: | CJA6 - 13 | DXS - 14 | CJA6 - 15 | DXS - 16 |
|---|---|---|---|---|
| Block mode | ○ 1x MUX<br>◉ Reserve MUX<br>○ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX | ○ 1x MUX<br>◉ Reserve MUX<br>○ 2x MUX | ○ 1x MUX<br>○ Reserve MUX<br>◉ 2x MUX |
| Clock master | ◉ Force Master<br>○ Auto M/S<br>○ Slave | ○ Force Master<br>○ Auto M/S<br>◉ Slave | ○ Force Master<br>◉ Auto M/S<br>○ Slave | ○ Force Master<br>○ Auto M/S<br>◉ Slave |
| Local buses assignment | M1 M2 M3 M4<br>☑ ☑ ☐ ☐ | M1 M2 M3 M4<br>☐ ☐ ☑ ☐ | M1 M2 M3 M4<br>☑ ☑ ☐ ☐ | M1 M2 M3 M4<br>☐ ☐ ☐ ☑ |
| K. master | ◉ Master<br>○ Slave | | ○ Master<br>◉ Slave | |

#### 4.3.2 Master / Slave / Auto M/S

K master and Takt master must be set together. DXS next to CJA6 programmed to K master, must be Clock master.

#### 4.3.3 Clock master

Only one module can be source of 2 MHz clock in rack. Only CJA6 can be reserve for CJA6, only DXS can be reserve for DXS (regarding clock). CJA6 as a slave is switched to the local clock automatically, DXS as a slave or Auto M/S must be configured manually to by synchronized locally.

##### 4.3.3.1 Master

Module is always source of clock.

##### 4.3.3.2 Auto M/S

Module receives clock from master – module is slave. When master fails, module change its mode from slave to master and became source of clock.

##### 4.3.3.3 Slave

Module always receives clock, never source.

#### 4.3.4 K master

K is a local management channel between CJA6 and channel modules with master-slave protocol. Master pools and modules respond. Only one master can be active.

##### 4.3.4.1 Master

Module is always master of communication

##### 4.3.4.2 Slave

Module act like channel module – slave mode. When master fails, module will change mode from slave to master.

#### 4.3.5 M address

Address for Doris management system.

#### 4.3.6 Management module

RJ – equipment will be managed by Doris through RJ1 (RJ) module.
SMI – equipment will be managed by SNMP system. Remote LMS-connection through TCP/I is possible.

## 4.4 Central part equipment settings – CJA6 < 120-9, DXS < 10

Basic configuration of central part modules is possible only with local connection by use of LCT LMS-OCH with “Service” access level of LMS-OCH.

### 4.4.1 Block mode

Select basic mode of equipment.
Reserve MUX, 2xMUX and DXS with access to the local busses are available only with TPR10.

#### 4.4.1.1 1xMUX – CJA6

CJA6 operates all local buses M1-M4. 1-2 E1 at IFU, 1-4 E1 in JRxx module.

#### 4.4.1.2 1xMUX – CJA6+DXS

CJA6 is disconnected from local buses.
DXS operates all local buses M1-M4. 1-12 E1 at DXS.

#### 4.4.1.3 2xMUX - CJA6+CJA6

CJA6 modules share local busses (M1-M4). 1st CJA6 operates on M1 and M3, second CJA6 operates M2, M4.

#### 4.4.1.4 2xMUX – 2x(CJA6+DXS)

Both CJA6 are disconnected from local buses.
DXS shares local buses. 1st DXS operates on M1 and M3, second DXS operates M2, M4.

#### 4.4.1.5 Reserve MUX – CJA6+CJA6

CJA6.1 operates all local busses. If fails, CJA6.2 takes the traffic. E1.a and E1.b must be both connected only to the first IFU (DIP switches at IFU). CJA6.2 is disconnected from IFU (3rd state). Reserved traffic is limited to 60channels (E1.a and E1.b).

#### 4.4.1.6 Reserve MUX – 2x(CJA6+DXS)

There is no use for this configuration. Complete reserve will be available with DXL

### 4.4.2 Master / Slave / Auto M/S

K master and Takt master must set together. DXS next to CJA6 programmed to K master, must be Clock master.

### 4.4.3 Clock master

Only one module can be source of 2 MHz clock in rack. When DXS present, DXS is always source of local clock.

#### 4.4.3.1 Master

Module is always source of clock.

#### 4.4.3.2 Auto M/S

Module receives clock from master – module is slave. When master fails, module change its mode from slave to master and became source of clock.

#### 4.4.3.3 Slave

Module always receives clock, never source.

### 4.4.4 K master

K is a local management bus for CJA6 – channel modules communication with master-slave protocol. master pools and modules respond. Only one master can be active.

#### 4.4.4.1 Master

Module is always master of communication

#### 4.4.4.2 Slave

Module act like channel module – slave mode. When master fails, module will change mode from slave to master.

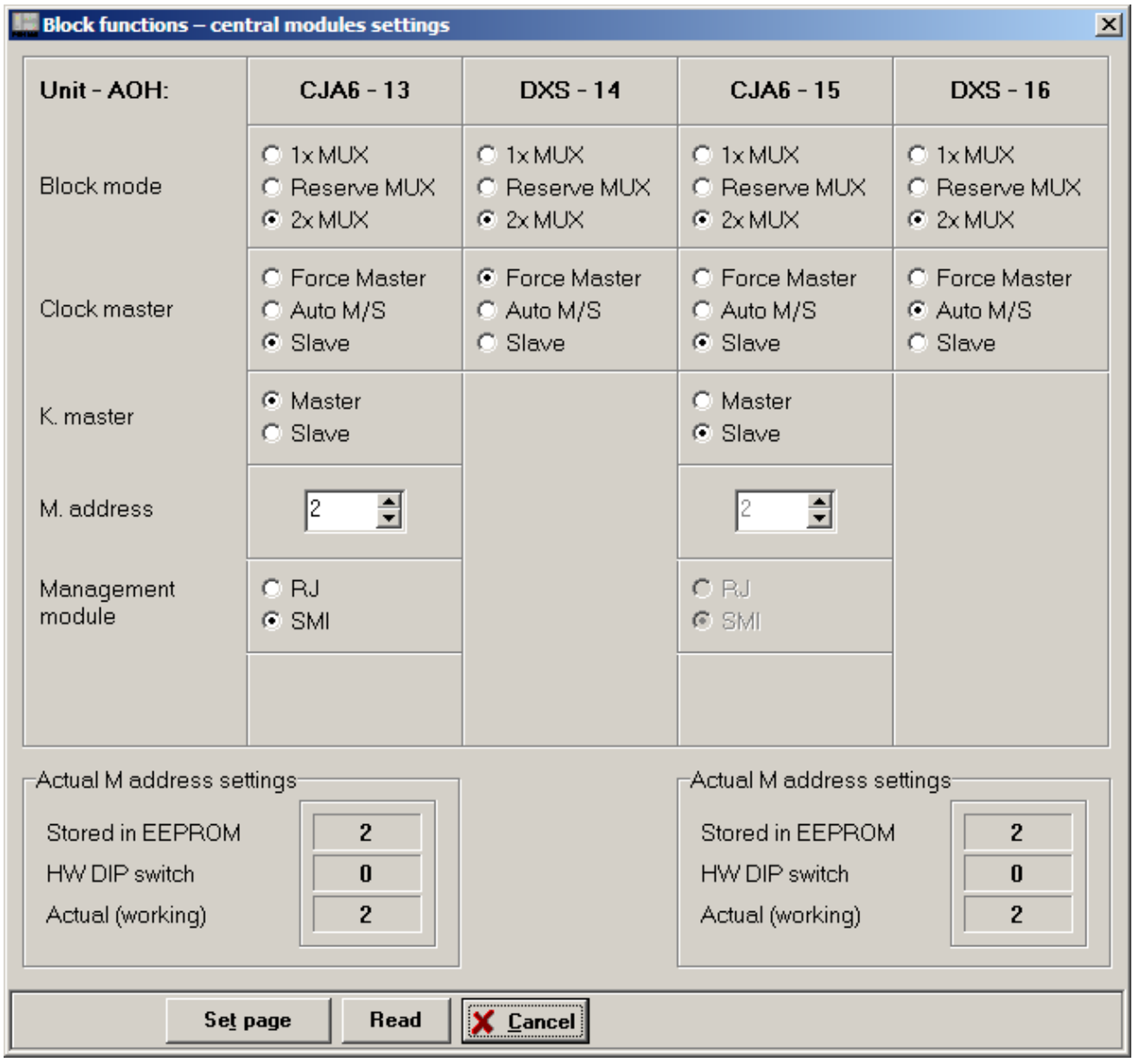
### 4.4.5 M address

Address for Doris management system.

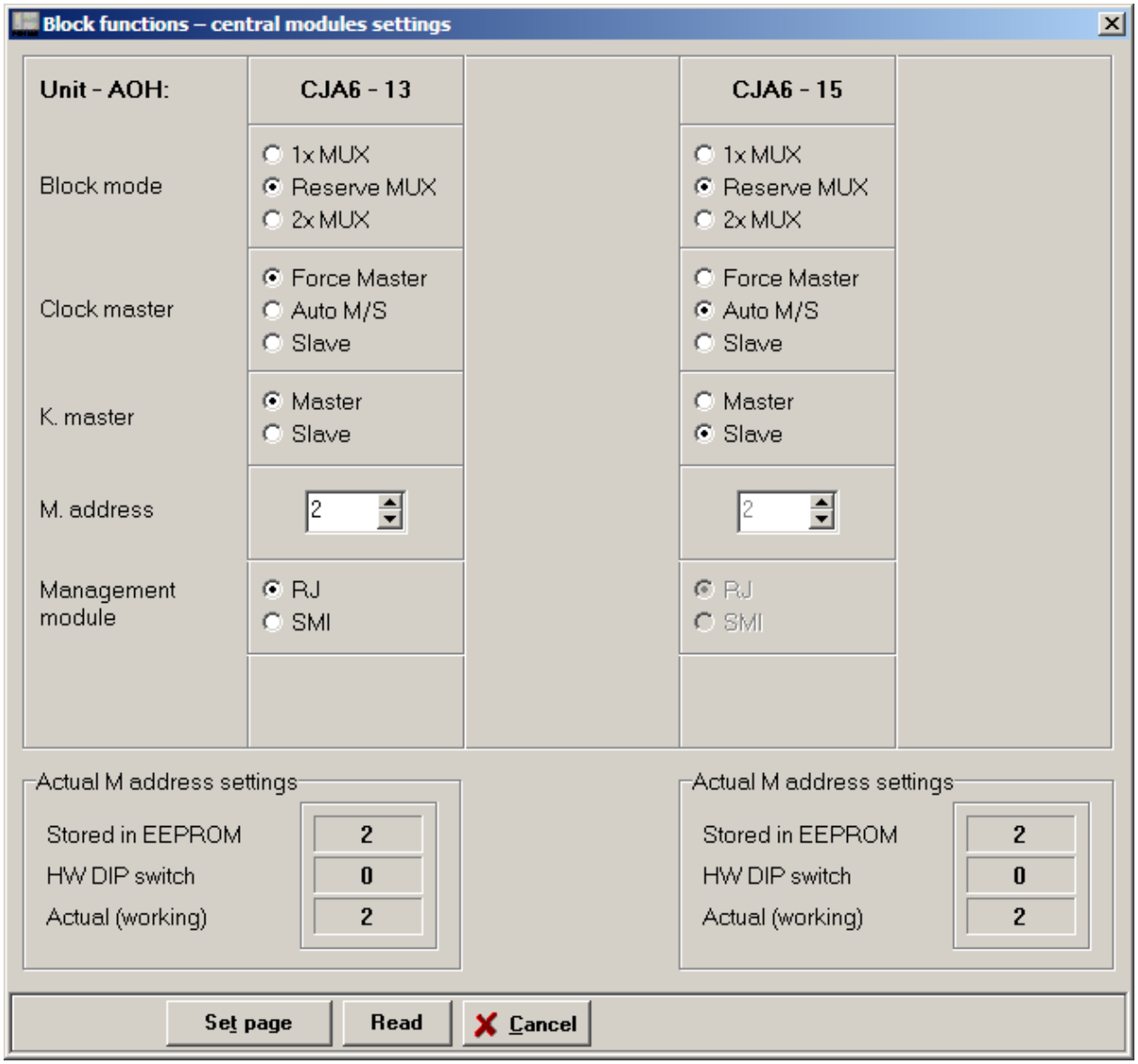
### 4.4.6 Management module

RJ – equipment will be managed by Doris through RJ1 (RJ) module.
SMI – equipment will be managed by SNMP system. Remote LMS-connection through TCP/I is possible.

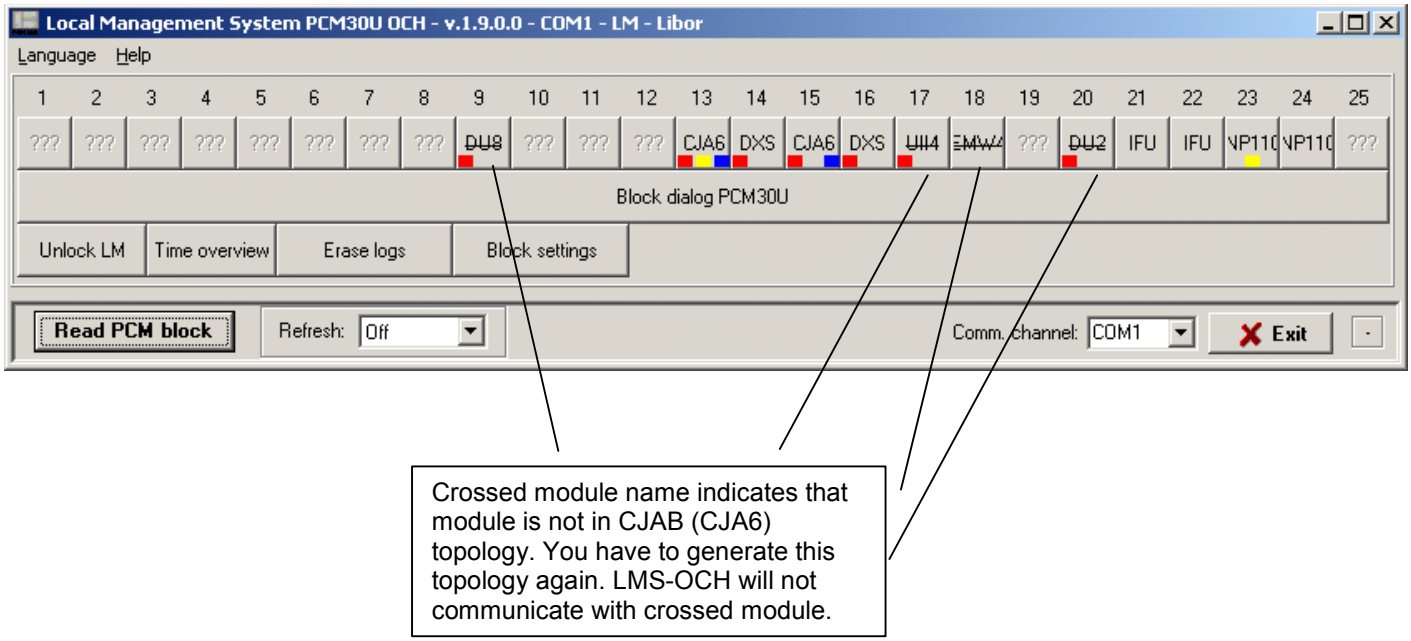
### 4.4.7 Dual multiplexer with DXS, SMI managed



### 4.4.8 Reserve multiplexer, managed by RJ

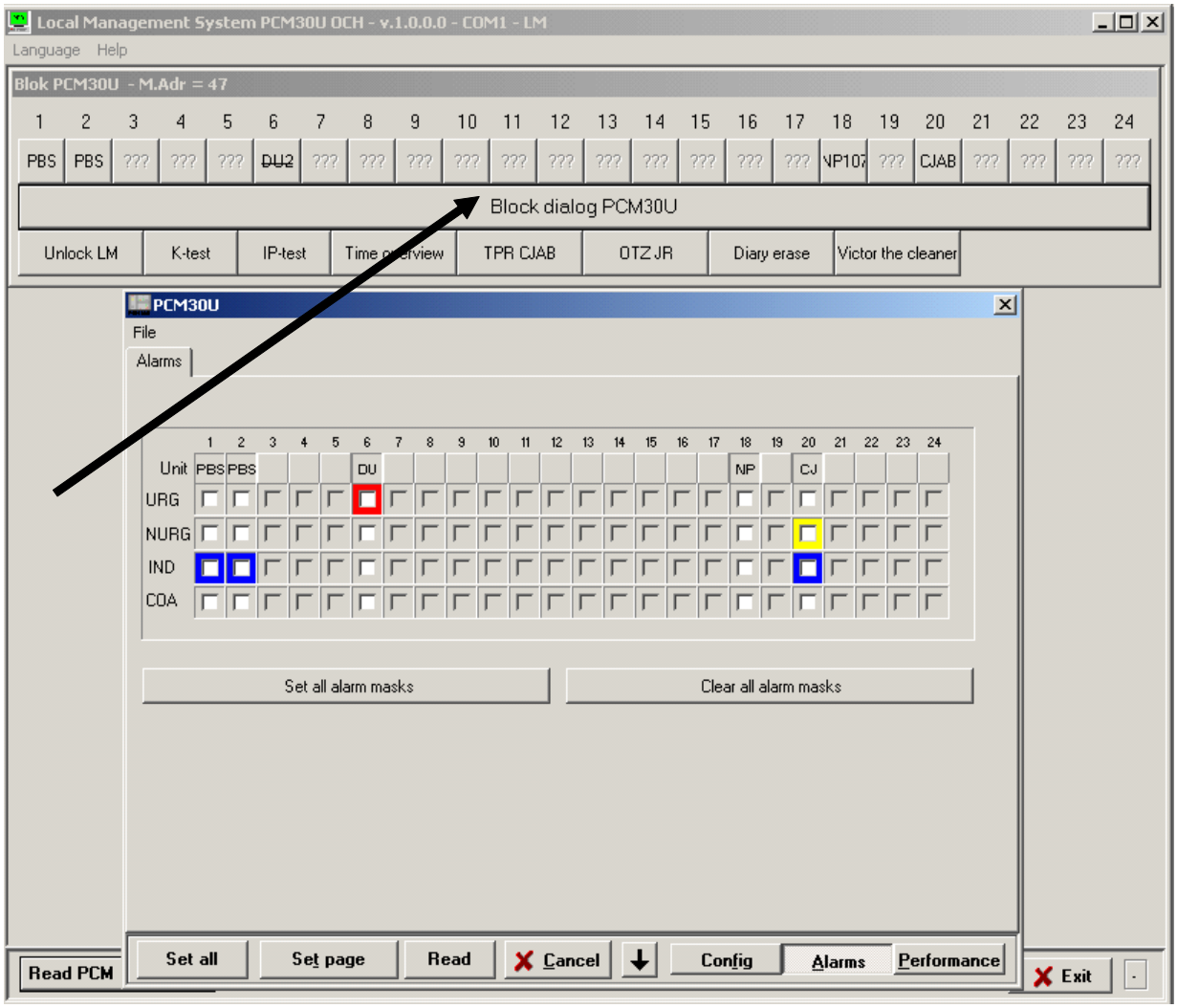


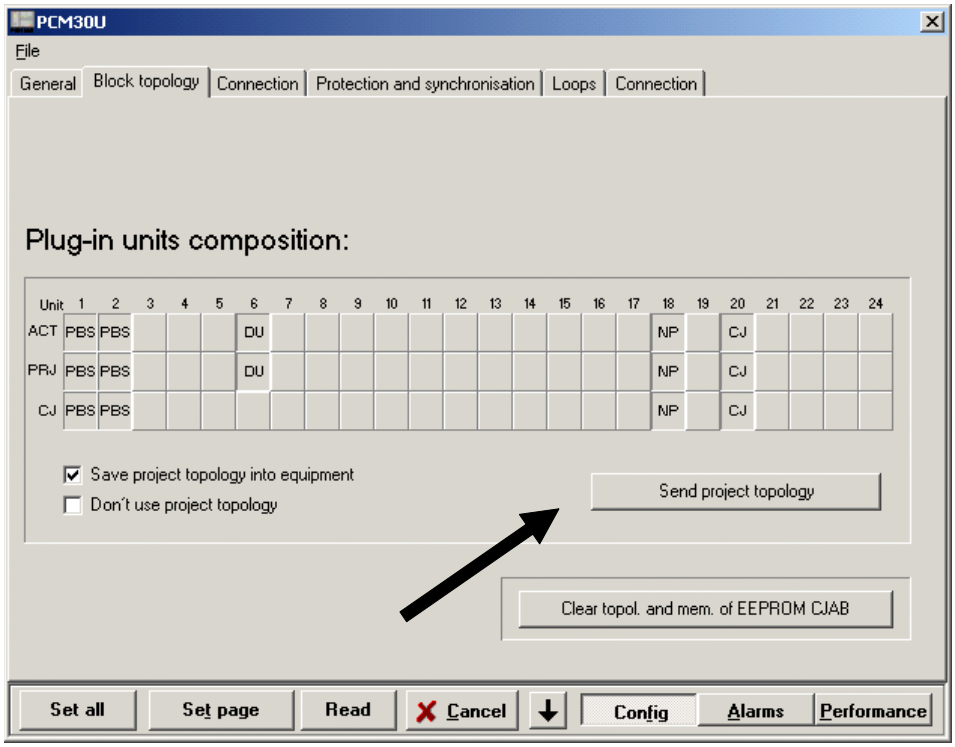
## 4.5 Working with LMS-OCH


Local Management System PCM30U OCH - v.1.9.0.0 - COM1 - LM - Libor
Language Help
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25
??? ??? ??? ??? ??? ??? ??? ??? DU8 ??? ??? ??? CJA6 DXS CJA6 DXS UII4 EMW4 ??? DU2 IFU IFU NP110 NP110 ???
Block dialog PCM30U
Unlock LM
Time overview
Erase logs
Block settings
Read PCM block
Refresh: Off
Comm. channel: COM1
Exit

Crossed module name indicates that module is not in CJAB (CJA6) topology. You have to generate this topology again. LMS-OCH will not communicate with crossed module.

Click at “Block dialog PCM30U” Dialog with overview of alarm will appear.



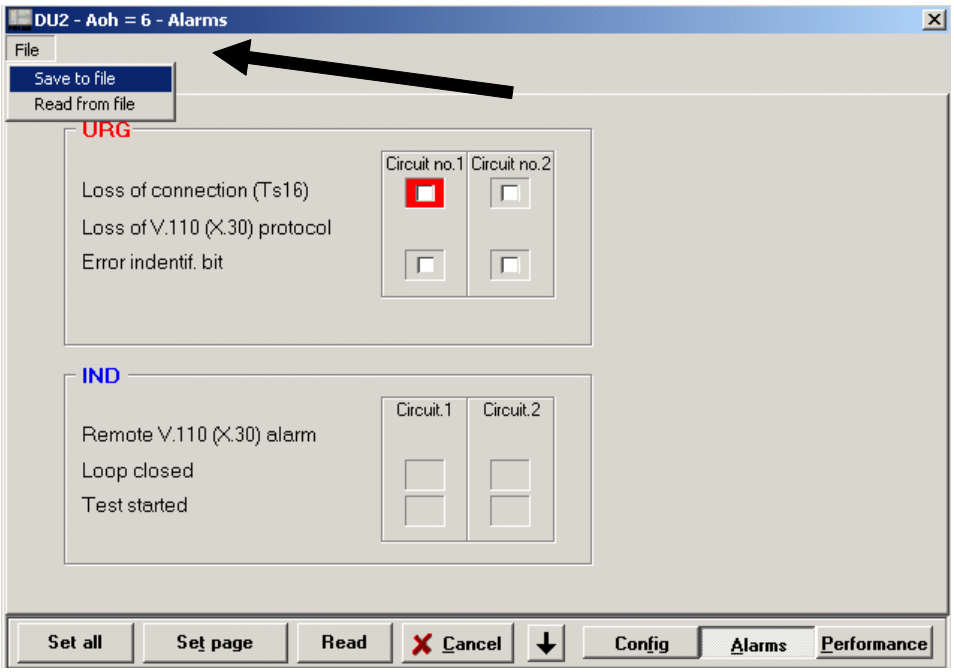



Click “Send project topology”

Cancel dialog and “Read PCM block data” again
Crossed modules will change to not crossed.

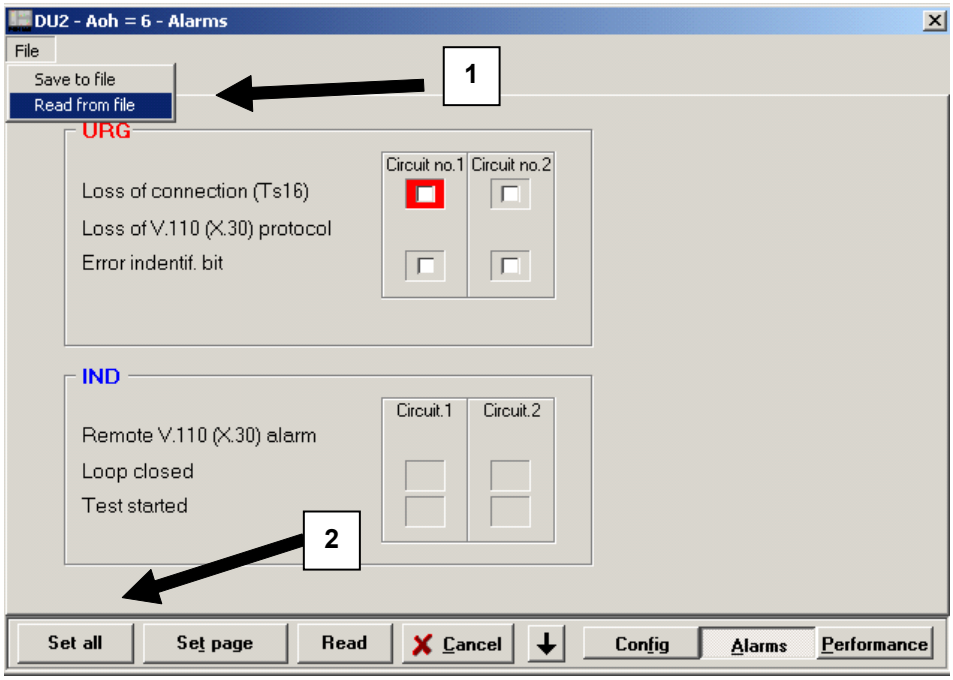
### 4.6 Save configuration of module

Click at module to open communication. In this example DU2.
Select File -> Save to file and fill in file name.




### 4.7 Restore configuration of module

Select File -> Read from file and select file with saved configuration.
Click “Set all” to write configuration into module.



# 5 Ordering information

| Item | Ordering code |
|---|---|
| LMS-OCH - service level | 446C872 |
| LMS-OCH - user level | 446C873 |
| F9RJ – cable for serial connection | 431K068 |

# 6 Document revision

| Date | Version | Description |
|---|---|---|
| 31.3.2011 | 00.000 | Extracted from document Local management<br>Added description of Block settings in version 1.9 |
| | | |
| | | |
| | | |
| | | |

# 7 Document revision

| Datum | Verze | Popis změny |
|---|---|---|
| 4.2009 | 00.000 | Vznik dokumentu |